

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
3 February 2005 (03.02.2005)

PCT

(10) International Publication Number  
**WO 2005/010438 A1**

(51) International Patent Classification:  
F23D 17/00, F23L 7/00

F23R 3/36,

(74) Agents: VITTORANGELI, Lucia et al.; Jacobacci & Partners S.p.A, Via Senato, 8, I-20121 Milano (IT).

(21) International Application Number:  
PCT/IT2003/000462

(22) International Filing Date: 25 July 2003 (25.07.2003)

(25) Filing Language: Italian

(26) Publication Language: English

(71) Applicant (for all designated States except US):  
ANSALDO ENERGIA S.p.A. [IT/IT]; Via Nicola  
Lorenzi, 8, I-16152 Genova (IT).

(72) Inventors; and

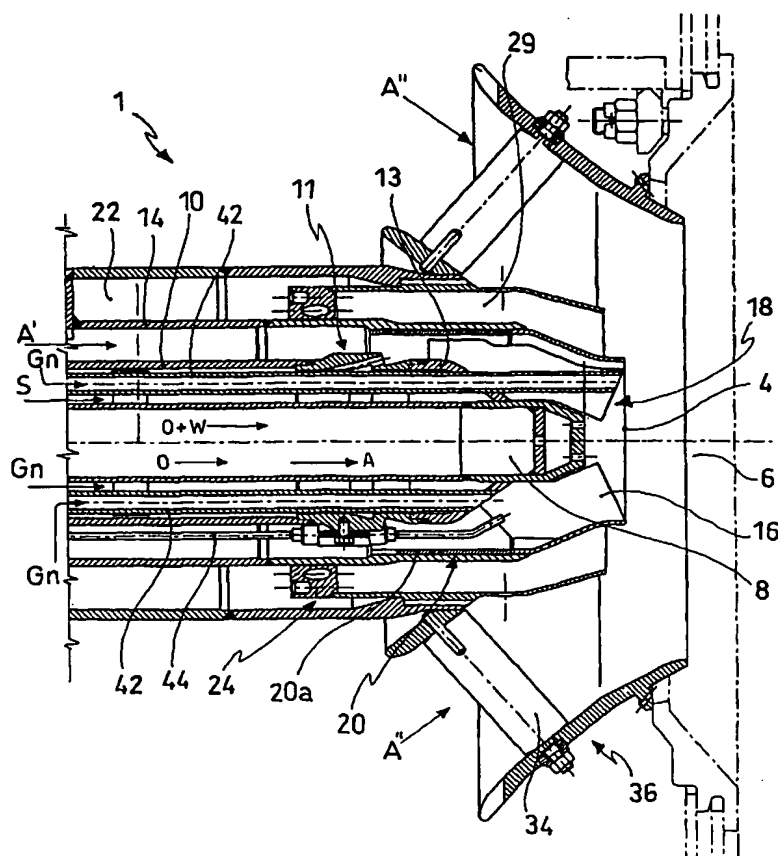
(75) Inventors/Applicants (for US only): BONZANI, Fed-  
erico [IT/IT]; Via Salgari, 34/11, I-16156 Genova (IT).  
POLLAROLO, Giacomo [IT/IT]; Via Ceppi Bairolo,  
8/14, I-16126 Genova (IT).

(81) Designated States (national): AE, AG, AI, AM, AT (util-  
ity model), AU, AZ, BA, BB, BG, BR, BY, BZ, CA,  
CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (util-  
ity model), DE, DK (utility model), DK, DM, DZ, EC, EE  
(utility model), EE, ES, FI (utility model), FI, GB, GD, GE,  
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ,  
LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,  
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO,  
RU, SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ,  
TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA,  
ZM, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,

[Continued on next page]

(54) Title: GAS TURBINE BURNER



(57) Abstract: A turbine burner (1) comprising a secondary feed unit for the supply of a backup mixture and a primary feed unit intended for the supply of a primary mixture comprising lean gas, comprising a primary mixture channel (24). The primary mixture channel (24) has an annular wall (28) having a truncated cone-shaped end portion (30) capable of conveying the primary mixture directly to the combustion zone (6) facing the axial swirler (18), achieving efficient combustion even for primary mixtures comprising gases with a low calorific value.

WO 2005/010438 A1

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

— with international search report